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Final Year Project Report ☒

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I, NOR SHAZMIRA BINTI ZULKAFLI , 35060, FACULTY OF COGNITIVE SCIENCES AND HUMAN DEVELOPMENT, hereby declare that the work entitled, STUDENTS' SATISFACTION WHILE ENGAGING IN UNIMAS MOOC ICT COMPETENCY COURSE is my original work. I have not copied from any other students' work or from any other sources with the exception where due reference or acknowledgement is made explicitly in the text, nor has any part of the work been written for me by another person.

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STUDENTS' SATISFACTION WHILE ENGAGING IN UNIMAS MOOC ICT COMPETENCY COURSE

NOR SHAZMIRA BINTI ZULKAFLI

This project is submitted
in partial fulfilment of requirements for a
Bachelor of Science with Honours
(Cognitive Science)

Faculty of Cognitive Sciences and Human Development
UNIVERSITI MALAYSIA SARAWAK
(2015)

The project entitled ‘Students’ Satisfaction while Engaging in UNIMAS MOOC ICT Competency Course’ was prepared by Nor Shazmira Binti Zulkafli and submitted to the Faculty of Cognitive Sciences and Human Development in partial fulfillment of the requirements for a Bachelor of Science with Honours (Cognitive Science)

Received for examination by:

(ASSOC. PROF. DR FITRI SURAYA)

Date:

Grade

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ABSTRACT

MOOC is a new phenomenon that has gained a lot of attention including in the high education system. Since semester 1 2014/2015, UNIMAS has developed its own MOOC which is ICT Competency course. This study examined the perception and satisfaction of UNIMAS students while enrolling in this course. There are two main categories of criteria in a MOOC which are pedagogical criteria and technical criteria. Pedagogical criteria consist of instructional design and assessment. For technical criteria, there are user interface, video content, learning and social tools and lastly, learning analytics. Data on students' satisfaction (N=46) in these criteria were analysed using correlation analysis. There are significant relationships between all these criteria and the students' satisfaction. These results highlight that each of the criteria play important role to ensure the satisfaction of students while they are enrolling in the course and therefore, make UNIMAS MOOC ICT Competency course one of the successful MOOC.

Keywords: MOOC, e-learning, satisfaction

CHAPTER ONE

INTRODUCTION

Introduction

This chapter discusses the background of the study, the research problem, research objectives and research question, significance of study, definitions of terms, and finally the summary.

Background of Study

One of the contributions of information technology to the world of education is the implementation of e-learning (Selviandro & Hasibuan, 2013). E-learning is the latest evolution of distance learning which a learning situation where learners and instructors are separated by time, distance, or both. Network technologies are being used by e-learning in order to create, foster, deliver, and facilitate learning at anytime and anywhere (Liaw, 2007). Through e-learning, benefits in terms of flexibility, measurement, and also diversity are being offered (Selviandro & Hasibuan, 2013). According to Bouhnik and Marcus (2006), there are four advantages of e-learning which are the students have freedom in deciding when each online lesson will be learned and also there are no limits for the students in expressing thoughts and asking questions to the instructor. Furthermore, there is no dependency on the time constraints of the lecturer for the students to learn. Students are on their own election to access the course's online materials whenever they are free.

There are also other benefits of e-learning that being listed by Liaw (2007) which agree with Bouhnik and Marcus (2006) which are the learning program can be accessed by participants at any time that is convenient for them. In addition, the participants do not have to meet as the program can be held at any place. Liaw (2007) further explained that asynchronous interaction happens when interactions can be more concise and discussion process can stay on-track. Besides, through online courses, many new options and learning

strategies become economically feasible. With these new educational approaches, unique opportunities for teachers and learners can be provided for them to share innovations in their own works with the immediate support of electronic groups.

Massive Open Online Courses (MOOCs) are a product of the Internet evolution that is designed to reach as many students as possible whether be in formal and informal ways. Having developed from the first early examples five years ago, MOOCs are a relatively recent online learning phenomenon. MOOCs promise that they provide free access, cutting edge courses that are able to drive down the cost of university-level education and capable of disrupting the existing models of Higher Education (Futurelearn, 2013). In contrast to traditional university online sources, courses in MOOCs are also designed to support an indefinite number of participants. Without any required course prerequisite, MOOCs offer students the opportunity to take courses from celebrated specialist experts.

Problem Statement

UNIMAS has begun to implement MOOC through an ICT Competency course since semester 1 2014/2015. Thus, there is yet no study to examine the usage of MOOC among the students and their satisfaction when enrolling in the course based on pedagogical and technical category. Hence, the effectiveness of this program is still remaining as a question. According to Daradoumis et al. (2013), one key concern of MOOC is that the dropout rate of the participants. Several sources show that only around 5% to 15% of participants finish the course on average. Nevertheless, some authors suggest that the dropout statistics might not be representing the only reality of MOOC learners. In the paper by Daradoumis et al. (2013), this is because there are different patterns of student behavior. So, analyzing in further of each participant's objectives can provide additional insight off different personal goals when attending a course thus completing it. In UNIMAS, there is no any statistics or study yet that can provide the information about the students' activities within the course.

By considering the responses of students who took part in e-learning courses, Bouhnik and Marcus (2006) mentioned that students' e-learning dissatisfaction was based on the disadvantages that there is no firm framework that encourages students to learn. Also, in e-learning systems, a learning atmosphere is absence. There is need of high level self-discipline or self-direct in order to not become easily distracted. As a result, the learning process is less efficient to be compared to face-to-face learning format. For e-learning, students need to dedicate more time to learn the subject matter.

Research Objectives

The objectives of this study can be divided into general objective and specific objectives.

General Objective

The purpose of this study is to examine the students' perceived interaction and their satisfaction in UNIMAS MOOC ICT Competency course.

Specific Objectives

The specific objectives for this study are:

- To identify students' satisfaction based on pedagogical category while engaging in UNIMAS MOOC ICT Competency course.
- To investigate students' satisfaction based on technical category while engaging in UNIMAS MOOC ICT Competency course.

Research Questions

- Based on pedagogical category of the MOOC, how satisfied are the students while interacting in the ICT Competency course?
- Based on technical category of the MOOC, how satisfied are the students while interacting in the ICT Competency course?

Conceptual Frameworks

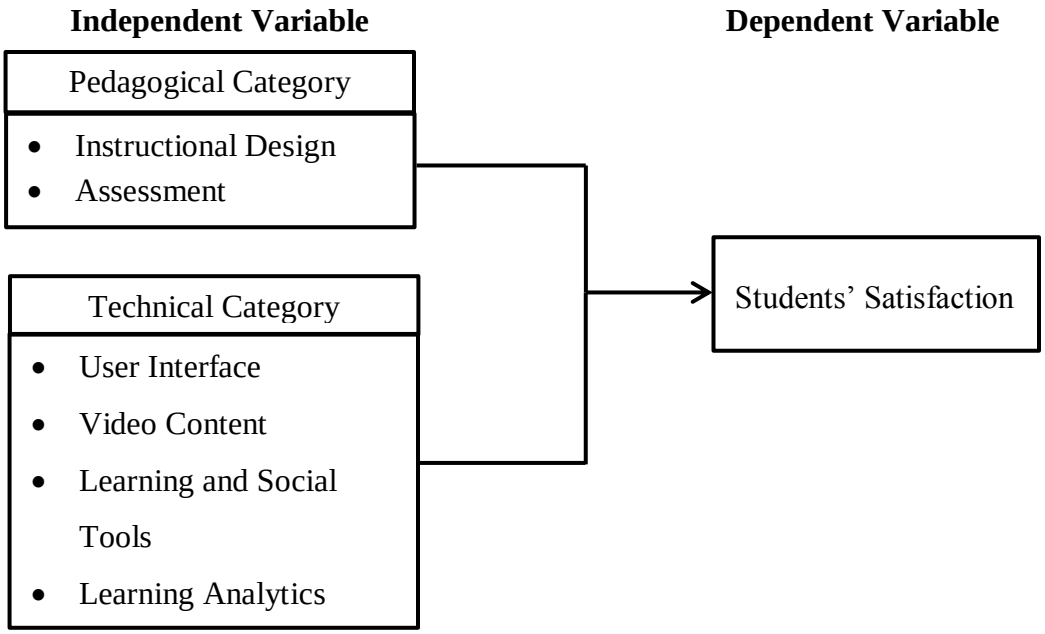

Figure 1.1. Conceptual Framework

Null Hypothesis

The hypotheses for this study are derived based on the two categories which have six main criteria.

Pedagogical Criteria

H_{01}: There is no significant relationship between the instructional design of ICT Competency course and students' satisfaction

H_{02}: There is no significant relationship between the way assessment being conducted in ICT Competency course and students' satisfaction

Technical Criteria

H_{03}: There is no significant relationship between the user interface of ICT Competency course and students' satisfaction

H_{04}: There is no significant relationship between the video content of ICT Competency course and students' satisfaction

H_{05}: There is no significant relationship between learning and social tools of ICT Competency course and students' satisfaction

H_{06}: There is no significant relationship between learning analytics of ICT Competency course and students' satisfaction

Significance of Study

This study is trying to identify the satisfaction of UNIMAS students while they are engaging in the ICT Competency course of MOOC. Their satisfaction is determined through the implementation of the criteria of a successful MOOC in the ICT Competency course. There are two dimensions which are pedagogical and technical categories. It is important to know whether the students are satisfied because the program is intended to help them in their learning process. With the increasing popularity of MOOC, the study of users satisfaction become really crucial to ensure that the programs are well designed and give the expected outcomes. The result of this study also can be used to know whether the ICT Competency course based on MOOC is effective in UNIMAS.

Conceptual and Operational Definition of Terms

There are two types of terms which are conceptual and operational definition. Conceptual definition is definition of concept through other concepts. Operational definition is a clear, concise, and detailed definition of a measure which applied to data collection (PQ System, 2014).

Massive Open Online Courses (MOOCs)

Conceptual Definition

MOOCs concept originated in 2008 among the open educational resources (OER) movement. Most of the pioneer courses were influenced by connectivist theory. It highlights that knowledge and learning happen from a network of relationships or connections (Technopedia, 2013).

Operational Definition

UNIMAS MOOC ICT Competency course that has been implemented since semester 1 2014/2015 is the subject for this study. It has five units that are covered in five weeks. Thus, in each week there is one unit to be covered. Students that enroll themselves in this course are able to access the contents for the course which are videos, documents, and exercises.

Students

Conceptual Definition

Student can be defined as the one who is enrolled or attends classes at a school, college, or university. Moreover, student is the one who studies something or an attentive observer (The American Heritage Dictionary of English Dictionary, 2009).

Operational Definition

For this study, the students range is the first year students which are from 2014/2015 session. They enroll themselves in the UNIMAS MOOC ICT Competency course and completed the course in semester 1 2014/2015.

Satisfaction

Conceptual Definition

According to Wang (2003), e-learner satisfaction can be defined as affective response with varying intensity that follows asynchronous e-learning activities. The affective response is stimulated by several focal aspects such as content, user interface, learning community, customization, and also learning performances.

Operational Definition

The operational definition for this study of satisfaction is focusing in the engagement of students with UNIMAS MOOC ICT Competency course. The

satisfaction emphasizes on the pedagogical and technical criteria of the MOOC. The pedagogical criteria are about instructional design and assessment of MOOC. For technical criteria, the satisfaction in user interface, video content, learning and social tools, and learning analytics of the MOOC will be studied. The response from the students about such criteria determines their satisfaction.

Interaction

Conceptual Definition

Cowley et al. (2002) explain that interaction is stated as nothing more than the exchange of information. The goal is to bring the students to a point of reflection that makes them evaluate existing assumptions. They then choose whether to integrate or discard the new information.

Operational Definition

Interaction happens when events and objects are mutually influence each other. An event called instructional interaction takes place between a learner and the learner's environment. The purpose is to respond to the learner in such way that the learner change his or her behavior and then move towards achieving their goal.

Instructional Design

Conceptual Definition

According to Clark (2014), instructional design can be defined as a systematic process that is derived in order to build education and programs in a consistent and reliable way.

Operational Definition

In this study, instructional design means a set of learning design principles. Lecture organization and culture issues are the specific focus of this study in terms of instructional design.

Assessment

Conceptual Definition

Based on the Glossary of Education Reform (2013), assessment in education refers to the wide variety of instruments that being used by educators to measure, evaluate, and document the academic readiness, learning progress, and also skill acquisition among the students from preschool through college and adulthood.

Operational Definition

For this study, the assessment for UNIMAS MOOC ICT Competency course is being done through e-assessment and peer assessment.

Video Content

Conceptual Definition

According to Odden (2013), content has different context to different people and situations. Fundamentally, content means information, as well as experience and nothing specific. In terms of video, there are a lot of video format such as .avi, .flv, .mov or .wmv (Reelseo, 2015). Each format has different characteristics and being used accordingly.

Operational Definition

In delivering MOOC content, the main medium is through video. Video content in MOOC is in terms of sound, summary, size of the video and also in terms of color and highlights.

Learning and social tools

Conceptual Definition

According to Pappas (2012), online educators use social software and social media so that collaborative learning can be facilitated through interaction between learn and learners, learn and content, and learners and online educator. These tools are

used as formal and informal learning environments that support dynamic knowledge in educational communities (Pappas, 2012).

Operational Definition

Learning and social tools in MOOC play important role as they can influence the learning experience of the students. Learning and social tools are such as discussion tools, e-mail notifications, video conference and also social networking tools.

Learning Analytics

Conceptual Definition

Elias (2011) said that learning analytics is in which sophisticated analytic tools are being used in order to improve learning and education. In other field such as business, analytics tools enable statistical evaluation of rich data sources and the identification of patterns within data. Using these patterns, the future events can be predicted well and the informed decisions can be aimed at improving outcomes (Elias, 2011).

Operational Definition

For MOOC, learning analytics is being done to monitor the learning process, identify difficulties, discover learning patterns, provide feedback, and support learners in reflecting on their own learning experience.

Scope of the Study

The scope of this study is the respondents are from UNIMAS first year students that have enrolled themselves in the UNIMAS MOOC ICT Competency course.

Limitation of Study

The limitation in this study is that the respondents are only from UNIMAS first year students although the course is open for everyone to enroll. This is because all of the first

year students are required to enroll in this course; hence it would be convenience to conduct this study. Besides, the respondents might not express their true feeling while answering the questions due to social desirability bias. According to Callegaro (2013), social desirability is the tendency for some respondents to respond to the questions that for them the answers are more socially acceptable than their 'true' answer. They tend to do this to avoid negative evaluations and to project favorable image of them. To avoid the biasness from happening, the respondents are ensured about their complete anonymity and the questionnaire is ensured to be tactful and nonjudgmental. As being said by Penwarden (2013), this will help the respondents to give their honest answer while answering the questionnaire because they are comfortable with the questions.

Summary

As a conclusion, this chapter consists of crucial background of the study. The contents of this chapter are being used as guidelines for the other chapters. In the next chapter, related theories and literature of satisfaction in interacting with MOOC are further discussed.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter review literatures that are related to e-learning, blended learning, and also Massive Open Online Courses (MOOCs). The history of e-learning, concept of blended learning, and also information related to the advantages and disadvantages of MOOC are reviewed. Literatures regarding MOOC in Malaysia are also being reviewed in this chapter.

E-Learning

Brief history of e-learning

According to Nicholson (2007), in the history of e-learning, there is no single agreed definition of it and also no single evolutionary tree. E-learning has evolved in different ways either in Business, Education, Training, or even in Military sector. For the past 40 years, educators and trainers at all levels have made use of computers in different ways in order to support and enhance teaching and learning process. Therefore, the contemporary use of the term e-learning has different meanings in different contexts. For Higher Education, Business and Training sectors, e-learning is particularly related to flexible delivery of content and programs that is internet-based. The content and programs are focusing on supporting particular communities of practice. Further discussed by Nicholson (2007), the use of the term e-learning has historically had wider meanings in the context of the wider education community. It holds a diverse range of practices, technologies, and theoretical positions. Thus, online contexts are not the only aspect to be focused on as full range of computer based learning platforms is also included. This include the delivery methods, genres, formats, and media such as educational programming, simulations, multimedia games and the use of new media on fixed and mobile platforms across all discipline areas (Nicholson, 2007).

As the growth of e-learning in Business and Higher Education has its marketing become a ‘killer-app’, concerns about the influence of quality assurance driven models on the structure and the quality of these programs has arises. Besides, there are also concerns about its ability to deliver meaningful pedagogically structured learning experiences, or to have a clearly identifiable learning paradigm. Driven by those concerns, the focus of e-learning has extended to accommodate the incorporation of learner engagement and social learning models. Since its initiation, advances in technology of computers and networks also have evolved e-learning.

Nowadays, e-learning is being recognized as having the power to change and renew the performance, knowledge, and skills landscape (Gunasekaran, McNeil, & Shaul, 2002). According to Alexander (2001), e-learning is viewed as having the potential to improve the quality of learning, improve the education and training, reduce the cost of education, and improve the cost-effectiveness of education. E-learning is a way to enhance learning environment as it has the fresh look of full potential. There are a lot of researches being conducted to examine the benefits of e-learning. E-learning is an evidence of an environment of low costs maintenance, providing faster information delivery, enhancing more effective learning, and has lower environment impact. Based on Writers (2012), those who are working professionals have the chance of earning a degree at their own pace by taking classes through online. It is also stated that people who are taking online classes are usually looking for career advancement, career changes, or they just want to finish a degree program that they started at another college.

Furthermore, it is totally normal that the tuition fees for online schools are lower than traditional school. Online learning environment does not require costs in things like commuting or typical classroom supplies (Writers, 2012). Another significant characteristic of online learning is that students will not have to attend classes since all the classes are being

conducted online. All the materials and resources are delivered electronically and thus, the students just have to download the materials and completed the assigned works. Writers (2012) also stated that through online learning, students do not have to leave their home and get up early to go to class, being attached to the timetable, and miss the precious and important time with family (Writers, 2012).

Online Advantages and Disadvantages

In conducting online course delivery, there are a lot of advantages by which through the use of technology, students are placed at the center of the learning process. Explained by Stepan (2013), online course delivery recognizes that people learn differently by proposing pedagogy that is individualized. It offer an actively engaging environment and the environment is adapted to an individual needs. In addition, students can learn at their own pace that is supported by digital tools. Rather than traditional face to face instruction, underserved students' needs are being met through online that can provide them with more flexibility and choice at a lower cost. For an institution, online course delivery can solve problem regarding limited on campus classroom space. This statement can be related with Capper (2001) that explained online learning participants can be anywhere and they do not have to meet with each other to has learning process going on. Therefore, international sharing is feasible and students can log on the course at home, work, or even from hotel when they are travelling.

In the meantime, Stepan (2013) did highlights that there are some disadvantages that can be related to online courses. First of all, they are expensive to develop. Although in long term online does become cost-effective, the initial investment to develop the online courses is high. Besides, there are issues of perceptions surrounding pedagogy and assessment of the learning outcomes (Stepan, 2013). The perception that remains is that the participants of the online courses do not learn as efficient as those students in traditional face to face courses.

The perception remains even though there have been several studies that attempts to measure the effectiveness of online learning outcomes. In addition, many faculty members are unwilling to consider changing the way of teaching because the absence of available evidence of the potential advantages through online learning. Furthermore, Stepan (2013) said that it is undeniable that online courses are meant for students that are self-directed, not that attracted in the social interactions of face to face courses, and are comfortable using online tools in communicating with other students. In the other hand, for students that are looking for or having need of an environment that offers more structured approach to learning, their needs cannot be accommodated. It is hard for students that demand for online environments which have traditional on-campus experience found in face to face courses.

Blended Learning

In corporate and higher education settings, blended learning is some kind of buzzword. Still, there is quite a bit of ambiguity about the meaning when the term is being used. The working definition derived by Graham (2004), blended learning is the combination of instruction from two historically separate models of teaching and learning. They are traditional face to face learning systems and distributed learning systems which highlight the central role of computer based technologies. Graham (2004) said that blended learning is part of the ongoing merging of two archetypal learning environments. There is the traditional face to face learning environment that has been around and established for centuries and on the other hand, there are distributed learning environments that have started to grow and expand in exponential ways. New technologies have expanded the possibility for distributed communication and interaction. The levels of integration between computer-mediated instructional elements with traditional face to face learning experience have been increased with the widespread adoption and availability of digital learning technologies.

Massive Online Open Courses (MOOCs)

MOOCs or Massive Online Open Courses is currently a popular trend in e-learning. It is based on Open Educational Resources (OER) and for people that are residing in far or disadvantages areas, MOOCs is one of the most versatile ways in offering access to quality education. Initiated by distance and online learning, MOOCs become a way to facilitate efficient creation, distribution and the use of knowledge and information for learning. As OER are freely available online resources, they can be used to support social networking and other forms of connectivity among the participants. This makes the active engagement of large numbers self-organizing learners the main power of MOOC. The connection amongst them is being built by using the course platform and other social interaction tools that are available.

As being stated by Educause (2013), most of MOOCs are structured to be similar to traditional online higher education courses that are currently exist. A MOOC has syllabus and contents of the course that normally involves readings, assignments, and also short lectures of 6 to 12 minutes. Educause (2013) further explained that for MOOC participants that live close to one another, they can augment the online activities by meeting up face to face. MOOCs are usually being provided by higher education institutions that have partnership with organizers like Coursera, edX, and Udacity. Its disruptive ideas about the sources and processes of education, and also the advancement and convenience of technologies in education have affected the massive changes in financial model of higher education. Furthermore, the activity around MOOCs has drawn the attention of senior leadership in higher education. The longstanding models and premises about education are being challenged with all the activity of MOOCs. The significant effects of online education in the way of MOOCs are that barriers to education are potentially to be greatly reduced. This is